

10/18/91

Subject: Response to B&W's Modified Burner Design

The following are IPSC's comments on B&W's modified burner design proposed in the 10/15/91 meeting in Los Angeles. At this meeting B&W presented burner drawings and requested DWP approval by 10/18/91 to proceed with fabrication for the IGS Unit 1 burners.

It is difficult to concur with any proposed burner design without adequate time and enough detail information on critical components of the burner. Particularly critical in this case is the information regarding design of the backplate assembly and throat sleeve casing seal assembly.

Prior to release for fabrication of the final burner design, IPSC requests the following recommendations be incorporated into B&W's design, the burner drawings be completed reflecting these modifications and these drawings be distributed for approval to fabricate.

Please note at this stage of the burner project, it is essential to get full acceptance of the finalized burner design including materials and detail clarification. We recommend taking the additional days necessary, prior to fabrication approvals.

The following is our list of burner design recommendations;

1. Outer Air Register Backplate Assembly:

- a. Circumferential Clearance between Segments- Total circumferential clearance should equal 3 inches. With six segments as B&W has recommended, the radial clearance between segments should be 0.5 inches. If this gap is triangular shaped, minimum clearance should remain 0.5 inches.
- b. Radial Clearance between Segments- Radial clearance on each of the backplate segments should be 0.25 at the inner annulus (ID) and 0.5 on the outer annulus (OD) for thermal growth allowances.
- c. Backplate Axial Support- Axial support needs to be provided to center each of the backplate segments to allow for the radial and axial clearances previously stated. RJM has recommended a shoulder bolt attachment arrangement (drawing enclosed) which we would like to see utilized unless a better attachment can be proposed.

IP7_004007

- d. Outer Annulus Radial Support- Additional radial supports should be provided to the outer annulus of the backplate assembly, beyond the support provided by the additional support rails proposed by B&W. We are recommending additional radial supports attached to the outer ring and anchored to the axial braces on the nozzles support sleeve (a minimum of four; one per each of the six backplate segments minus the two rail supports).
 - e. Segment Cover Plate- A slip fit cover plate is recommended to be attached to each segment joint to minimize air leakage.
2. Throat Sleeve Assembly:
- a. Throat Sleeve Radial Supports- Radial supports need to be included on the throat sleeve assembly to ensure centering of this sleeve.
3. Scanner: Recommend the second scanner issue be placed on hold until after the return of Unit 2 from its Fall Outage.

Please note, RJM's final report is expected Monday 10/21/91 and will be forwarded to all parties at this time.

attachments

cc: Byron Fujikawa
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Richard Monroe

IP7_004008

INTERMOUNTAIN POWER PROJECT MODIFIED BACK PLATE

DESIGN

- o FOUR 90° SEGMENTED PANELS.
- o SLIP-FIT TO THE INNER SLEEVE AND OUTER REGISTER ASSEMBLY.
- o TANGENTIAL 3/4 INCH GAP BETWEEN PANELS.
- o OVERLAP PLATES BETWEEN PANELS.
- o RADIAL CENTERING BARS.

ADVANTAGES

- o ELIMINATION OF PLATE CONING/WARPING.
- o THE GAPS ALLOW FOR 0.6 INCH THERMAL GROWTH AT THE INNER RADIUS.
- o OVERLAP PLATES PREVENT AIR-FLOW THROUGH GAPS.
- o RADIAL BARS TO CENTER PLATE DURING INSTALLATION AND TO PREVENT BINDING OF THE PLATE DURING THERMAL GROWTH.

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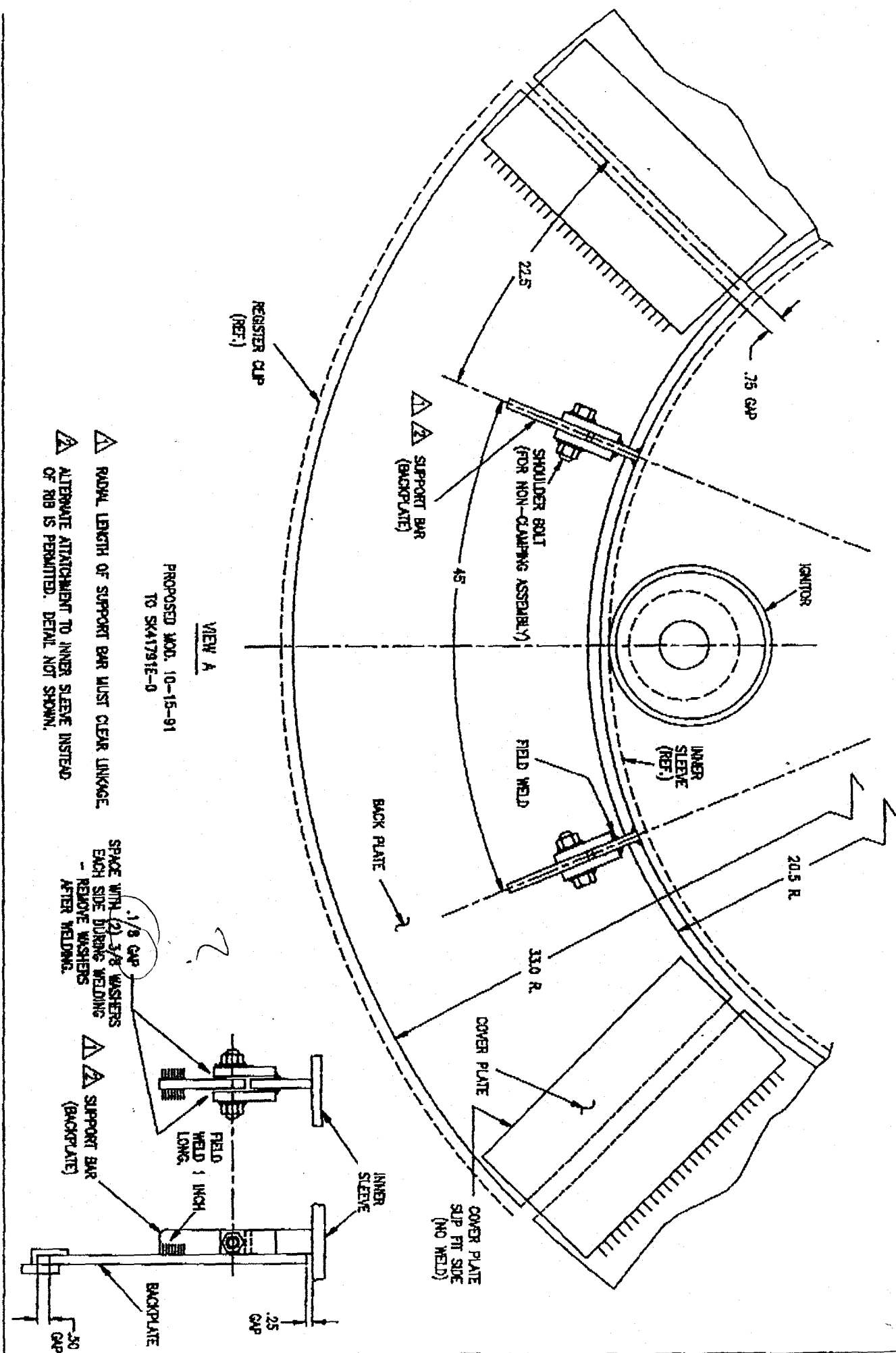


Figure 39 Segmented Back Plate

INTERMOUNTAIN POWER PROJECT

RECOMMENDED DESIGN

